

**Rejections Under 35 U.S.C. § 103(a)**

The Examiner rejected claim 26-36 as being unpatentable over Rogers (U.S. Patent 4,288,298) in view of Loch (U.S. Patent 4,666,567) or Martin, et al. (U.S. Patent 6,071,398) for the reasons set forth in the Office Action.

**RESPONSE**

Applicant has canceled claim 31, thus rendering the rejection moot with respect to claim 31.

Applicant respectfully traverses the rejection of the remaining claims. Applicant has amended claim 26 to include the limitations of canceled claims 31 and 37 therein.

Applicant respectfully contends that the references of record do not teach or suggest Applicant's inventive subject matter as a whole, as recited by the current amended claims. Further, there is no teaching or suggestion in these references which would lead the ordinary skilled artisan to modify the references to derive the subject matter as defined in the amended claims.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under § 103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness.

To establish a *prima facie* case of obviousness, the Examiner

must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all the claim limitations. Amgen, Inc. v. Chugai Pharm. Co., 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 USPQ 494, 496 (C.C.P.A. 1970).

Further, the Examiner needs to show basis for combining the references to properly set forth a *prima facie* case of obviousness. The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper; In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). The level of skill in the art cannot be relied upon to provide the suggestion to combine references. Al-Site Corp. v. VSI Int'l Inc., 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). (Emphasis added) See MPEP 2143.01.

Applicant respectfully re-iterates that claims 26 is drawn to a method for the manufacture of **prosthetic molded parts** for the dental sector with the aid of galvanic metal deposition. The galvanic deposition at least partly takes place by pulse-plating. The method is characterized in that gold or a gold alloy is deposited from a **gold sulphite bath** and that the percentage pulse duration, based on the total deposition time, is at least 50%. Thus, the inventive subject matter is directed to galvanic deposition of gold from a

**gold sulphite bath at a pulse density of between 0.2 A/dm<sup>2</sup> and 50 A/dm<sup>2</sup> for 3-dimensional prosthetic parts in the dental field.**

As can be seen, Applicant has amended independent claim 26 to incorporate the limitation in which gold alloy is deposited "from a gold sulphite bath at a pulse current density of between 0.2 A/dm<sup>2</sup> and 50 A/dm<sup>2</sup>". Applicant respectfully submits that neither Rogers (the '298 patent), Loch (the '567 patent), nor Martin, et al. (the '398 patent) disclose the use of a gold sulphite bath at a pulse current density of between 0.2 A/dm<sup>2</sup> and 50 A/dm<sup>2</sup> to deposit gold alloy.

Applicant respectfully brings to the Examiner's attention that Rogers (the '298 patent) merely discloses the use of gold sheets and potassium gold cyanide for use with galvanic deposition. Applicant respectfully contends that one of ordinary skill in the art would not be able to arrive at the current invention by the '298 patent's disclosure. Further, Applicant respectfully submits that Rogers definitely does not use pulse-plating. As can be seen from Table 1 in column 4, Rogers uses a cyanide electroplating solution. In such cyanide solution it is possible to bring gold into the solution by a polarity reversal. This is disclosed in Rogers starting from column 5, line 40. The gold, which was brought into the solution, can be plated onto the substrate after another polarity reversal. This is only possible with such cyanide electroplating solutions but not with the solutions used by Applicant, namely sulphite solutions.

As for the Loch (the '567 patent), Applicant respectfully reiterates that Loch does not pertain to the field of dentistry, much less with 3-dimensional objects. Instead, Loch is directed to electroplating surfaces of conductive substrates. This is readily apparent from the description in the patent, especially Fig. 3, which shows a part being plated. Furthermore, another difference between the present claims and Loch is that Loch indicates in the Abstract that the electroplating solution has "a low concentration of plating ions." Therefore, Applicant respectfully submits that one of ordinary skill in the art would not be drawn to the disclosure of Loch to add the pulse-plating feature to the disclosure of Rogers in the manufacturing of 3-dimensional dental parts made from gold or gold alloys from a gold sulphite bath, since Loch teaches only electroplating parts and requires a low concentration of plating ions. The lack of motivation to combine the references is due to the divergent aims of each reference, namely Rogers (the '298 patent) is concerned with manufacturing a piece via electroforming, while Loch (the '567 patent) is concerned with electroplating an object.

Further, Applicant contends that since Loch (the '567 patent) does not disclose the use of a gold sulphite bath at a pulse current density of between  $0.2 \text{ A/dm}^2$  and  $50 \text{ A/dm}^2$  to deposit gold alloy, nor does Loch offer any motivation to use a gold sulphite bath in this manner, the current claims are not rendered obvious by the '567

patent in part or whole.

As for Martin, et al (the '398 patent), Applicant submits that the disclosure of Martin, et al. does not overcome the deficiencies of Rogers (the '298 patent) and Loch (the '567 patent). In particular, as with the Loch reference, Martin does not disclose the manufacture of 3-dimensional dental parts, as Martin only discloses electroplating a substrate. The process of Martin is exemplified by the deposition of copper from an acidic electrolyte. There is no motivation in Martin to combine it with either Rogers or Loch in an attempt to achieve the present claims. Further, Martin, et al. does not disclose the use of a gold sulphite bath at a pulse current density of between 0.2 A/dm<sup>2</sup> and 50 A/dm<sup>2</sup> to deposit gold alloy, nor does Martin, et al (the '398 patent) offer any motivation to use a gold sulphite bath in this manner. Thus, the current claims are not rendered obvious by the '398 patent in part or whole.

Applicant respectfully submits that the claims are unobvious over the combination of references of Rogers (the '298 patent), Loch (the '567 patent), and Martin, et al. (the '398 patent), and respectfully requests reconsideration and withdrawal of the rejection.

#### **Rejections Under 35 U.S.C. § 103(a)**

The Examiner rejected claims 37 and 39 as being unpatentable over Rogers (U.S. Patent 4,288,298) in view of Laude, et al. (U.S.

Patent 4,192,723) for the reasons set forth in the Office Action.

### **RESPONSE**

Applicant has canceled claim 37, thus rendering the rejection of claim 37 moot. Claim 39 was previously dependent on claim 37, which has been amended to become dependent on claim 26.

Applicant respectfully traverses the remaining rejection. Since claim 39 depends from claim 26 and contains all of the limitations found therein, if claim 26 is found to be unobvious over the references, so to must claim 39.

The reasons for claim 26 being unobvious over Rogers (the '298 patent) in view of Loch, et al. (the '567 patent) or Martin (the '398 patent) are given above. In particular, as previously stated, the disclosure of Rogers does not disclose deposition of gold from a gold sulphite bath at a pulse density of between 0.2 A/dm<sup>2</sup> and 50 A/dm<sup>2</sup> for 3-dimensional prosthetic parts in the dental field, and Rogers, Loch, and Martin fail to teach all of the claimed limitations. Further, as previous stated, there is no motivation to combine the references due to the divergent nature of the purposes for each reference. Even if the references were combined, Martin does not cure the deficiencies of Rogers and Loch. Applicant hereby incorporates the above arguments into the response to this rejection.

The Examiner relies on Laude et al. (the '723 patent) to remedy

the deficiency of the other references with respect to the use of a gold sulphite bath and the concentration of gold therein. However, Applicant respectfully submits that Laude et al. are concerned with the gold sulphite bath to be used in electroplating, and not with the manufacture of **3-dimensional objects by electroforming, such as prosthetic molded parts** for the dental sector with the aid of galvanic metal deposition. Thus, Laude et al. suffers from the same deficiency as Loch and Martin in failing to provide motivation for combining with the other references. And even if combined with the other references, the combination would still not achieve the present claims.

Therefore, Applicant respectfully submits that the claims are unobvious over the combination of references, and respectfully requests reconsideration and withdrawal of the rejection.

#### CONCLUSION

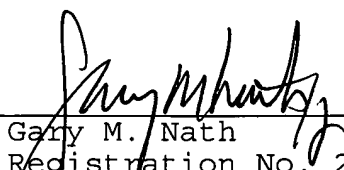
In light of the foregoing, Applicant submits that the application is in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicant respectfully requests that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

MS AF  
Serial No. 09/806,442

Respectfully submitted,

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## ATTACHMENT A

Claims 1-25. (Canceled)

26. (Currently Amended) Method for the manufacture of prosthetic moulded parts for the dental sector with the aid of galvanic metal deposition, in which galvanic deposition at least partly takes place by pulse-plating, characterized in that gold or a gold alloy is deposited from a gold sulphite bath at a pulse current density of between 0.2 A/dm<sup>2</sup> and 50 A/dm<sup>2</sup> and that the percentage pulse duration, based on the total deposition time, is at least 50%.

27. (Previously presented) Method according to claim 26, characterized in that galvanic deposition is ended in a time of less than 5 hours.

28. (Previously presented) Method according to claim 27, characterized in that galvanic deposition is ended within 1 to 2 hours.

29. (Previously presented) Method according to claim 26, characterized in that the percentage pulse duration is at least 70%.

30. (Previously presented) Method according to claim 26, characterized in that square-wave or ramp-shaped current pulses are used.

31. (Canceled)

32. (Previously presented) Method according to claim 26, characterized in that the duration of the current pulses or current intervals is in the millisecond range.

33. (Previously presented) Method according to claim 32, characterized in that the duration of the current pulses is at least 1 ms.

34. (Previously presented) Method according to claim 32, characterized in that the duration of the current intervals is at least 1 ms.

35. (Previously presented) Method according to claim 26, characterized in that the prosthetic moulded part is deposited with a thickness of at least 100  $\mu\text{m}$ , preferably between 150 and 300  $\mu\text{m}$ .

36. (Previously presented) Method according to claim 26, characterized in that galvanic deposition takes place from an aqueous bath.

37. (Canceled)

38. (Canceled)

39. (Currently amended) Method according to claim 26 ~~37~~, characterized in that said gold sulphite bath has a gold concentration of more than 30 g/l.

40. (Canceled)

41. (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)